

ANTIFREEZE AND COOLANT

CODE R00072250000

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CHEMICAL PRODUCT AND COMPANY INFORMATION

REVISION DATE: 04/03/1995
UN NUMBER- N/A

PRIMARY APPLICATION- ANTIFREEZE AND COOLANT

MANUFACTURER- SUN COMPANY, INC.
TEN PENN CENTER
1801 MARKET STREET
PHILADELPHIA PA 19103-1699SYNONYMS.....: ANTIFREEZE AND COOLANT HYLENE ALCOHOL
CAS REGISTRY NO: SEE SECT. 2
CAS NAME.....: NO CLASSIFICATION - MIXTURE
CHEMICAL FAMILY: BLEND
INFORMATION .SUPPLIER... MARIA DAYRIT
PHONE.....: (215) 246-8201EMERGENCY PHONE NUMBERS (AFTER NORMAL BUSINESS HOURS)
SUN CO.. 1-800-964-8861
CHEMTREC. 1-800-424-9300

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2. COMPOSITION / INFORMATION ON INGREDIENTS

COMPOSITION / INFORMATION ON INGREDIENTS			EXPOSURE GUIDELINES						
COMPONENT/CAS NO.	LO%	HI%	OSHA		ACGIH		SUN/MFR		UNIT
			TWA	STEL	TWA	STEL	TWA	STEL	

LIMITS FOR THE PRODUCT:			NO SPECIFIC LIMIT						
ETHYLENE GLYCOL									
107-21-1	.00	95.00					39		PPM
					CEILING LIMIT		-	39	PPM
DIETHYLENE GLYCOL									
111-46-6	.00	5.00			CEILING LIMIT		-	50	PPM
POTASSIUM PHOSPHATE DIBASIC									
7758-11-4	.00	2.00			NO SPECIFIC LIMIT				

ADDITIONAL EXPOSURE LIMITS ----- GOVERNMENT REGULATION
OTHER LIMIT- SEE SECTION 2

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3. HAZARDS IDENTIFICATION

EMERGENCY OVERVIEW -----

DANGER! HARMFUL IF INHALED. HIGH VAPOR CONCENTRATIONS MAY CAUSE
DIZZINESS. HARMFUL OR FATAL IF SWALLOWED. CAN CAUSE SEVERE CHRONIC
TOXICITY.

APPEARANCE-- GREEN LIQUID ODOR-- MILD

POTENTIAL HEALTH EFFECTS -----

PRIMARY ROUTES OF ENTRY- INHALATION(X) SKIN(X) EYE(X) INGESTION(X)

INHALATION -----

EXCESSIVE EXPOSURES MAY CAUSE IRRITATION TO EYES, NOSE, THROAT, LUNGS; RESPIRATORY TRACT; CENTRAL NERVOUS SYSTEM (BRAIN) EFFECTS; HEADACHES, NAUSEA; DIZZINESS, LOSS OF BALANCE AND COORDINATION; UNCONSCIOUSNESS, COMA; RESPIRATORY FAILURE AND DEATH. REPEATED EXCESSIVE EXPOSURES MAY CAUSE KIDNEY EFFECTS OR DAMAGE.

SKIN -----

SKIN ABSORPTION OF MATERIAL MAY PRODUCE SYSTEMIC TOXICITY. MAY CAUSE MILD TO MODERATE IRRITATION WITH PROLONGED OR REPEATED CONTACT.

EYE -----

CONTACT WITH THE EYE MAY CAUSE MILD IRRITATION.

INGESTION -----

SLIGHTLY TOXIC (LD50 5 TO 15 G/KG). ESTIMATED ORAL LD50 IN RATS IS: 6-13 G/KG. HARMFUL OR FATAL IF SWALLOWED. INGESTION OF THIS MATERIAL MAY CAUSE CENTRAL NERVOUS SYSTEM (BRAIN) EFFECTS; NAUSEA, VOMITING AND DIARRHEA; INGESTION OF THIS MATERIAL MAY CAUSE DAMAGE TO LIVER; KIDNEYS;

CARCINOGEN LISTED BY-IARC(NO) NTP(NO) OSHA(NO) ACGIH(NO) OTHER(NO)

PRE-EXISTING MEDICAL CONDITIONS AGGRAVATED BY EXPOSURE-
DISORDERS OR DISEASES OF THE SKIN, EYE, KIDNEY, LIVER, RESPIRATORY, PULMONARY AND LUNG (E.G. ASTHMA-LIKE CONDITIONS).

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4. FIRST AID MEASURES

INHALATION -----

MOVE PERSON TO FRESH AIR. IF NOT BREATHING, GIVE ARTIFICIAL RESPIRATION, OBTAIN MEDICAL ASSISTANCE.

SKIN -----

WASH WITH SOAP AND WATER UNTIL NO ODOR REMAINS. IF REDNESS OR SWELLING DEVELOPS, OBTAIN MEDICAL ASSISTANCE. IMMEDIATELY REMOVE SOAKED CLOTHING. WASH CLOTHING BEFORE REUSE. DESTROY CONTAMINATED SHOES.

EYE -----

FLUSH WITH WATER FOR AT LEAST 15 MINUTES. IF IRRITATION PERSISTS, OBTAIN MEDICAL ASSISTANCE.

INGESTION -----

GIVE LIQUIDS AND INDUCE VOMITING UNLESS VICTIM IS UNCONSCIOUS. NEVER GIVE ANYTHING BY MOUTH TO AN UNCONSCIOUS PERSON. IF VICTIM IS CONSCIOUS AND ALERT VOMITING SHOULD BE INDUCED BY OR UNDER THE DIRECTION OF A PHYSICIAN OR POISON CONTROL CENTER. OBTAIN EMERGENCY MEDICAL ATTENTION. SMALL AMOUNTS WHICH ACCIDENTALLY ENTER MOUTH SHOULD BE RINSED OUT UNTIL TASTE OF IT IS GONE.

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5. FIRE FIGHTING MEASURES

FLASH POINT: 247 SETAFLASH (DEG. F); 119 SETAFLASH (DEG. C)
AUTOIGNITION TEMP.: 748 (DEG. F); 398 (DEG. C)

---FLAMMABLE LIMITS IN AIR---

LOWER EXPLOSIVE LIMIT (LEL): 3.2 % VOLUME
UPPER EXPLOSIVE LIMIT (UEL): ESTIMATED @ 15.3 % VOLUME

FIRE AND EXPLOSION HAZARDS -----

CAN BE MADE TO BURN (FLASH POINT GREATER THAN 200F).

EXTINGUISHING-MEDIA -----

WATER SPRAY. ALCOHOL RESISTANT FOAM. DRY CHEMICAL. CARBON DIOXIDE.

SPECIAL FIRE FIGHTING INSTRUCTIONS -----

USE WATER SPRAY. COOL TANK/ CONTAINER. WEAR SELF-CONTAINED BREATHING APPARATUS. WEAR STRUCTURAL FIREFIGHTERS PROTECTIVE CLOTHING.

NFPA/HMIS CLASSIFICATION

HEALTH - 1 / 1

FIRE - 1 / 1

REACTIVITY - 0 / 0

PERSONAL PROTECTION INDEX - X

HAZARD RATING

0=LEAST 1=SLIGHT

2=MODERATE 3=HIGH

4=EXTREME

SPECIFIC HAZARD: NONE LISTED.

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6. ACCIDENTAL RELEASE MEASURES

CONTAIN SPILL. USE PERSONAL PROTECTIVE EQUIPMENT STATED IN SECTION 8. ADVISE EPA; STATE AGENCY IF REQUIRED. ABSORB ON INERT MATERIAL. SHOVEL, SWEEP OR VACUUM SPILL.

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7. HANDLING AND STORAGE

KEEP IN COOL, DRY PLACE. KEEP CONTAINER TIGHTLY CLOSED. KEEP IN WELL VENTILATED SPACE. STORAGE HAS TEMPERATURE LIMITS--SEE STABILITY. NFPA CLASS IIIB STORAGE. CONSULT NFPA AND OSHA CODES. AVOID PROLONGED BREATHING OF MIST OR VAPOR. AVOID PROLONGED OR REPEATED CONTACT WITH SKIN. AVOID CONTACT WITH EYES. WASH THOROUGHLY AFTER HANDLING.

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8. EXPOSURE CONTROL / PERSONAL PROTECTION

CONSULT WITH A HEALTH/SAFETY PROFESSIONAL FOR SPECIFIC SELECTION.

VENTILATION -----

USE ONLY WITH ADEQUATE VENTILATION. VENTILATE AS NEEDED TO COMPLY WITH EXPOSURE LIMIT. LOCAL EXHAUST VENTILATION RECOMMENDED. MECHANICAL VENTILATION RECOMMENDED.

PERSONAL PROTECTIVE EQUIPMENT -----

EYE -----

SPLASH PROOF CHEMICAL GOGGLES OR FULL FACE SHIELD RECOMMENDED TO PROTECT AGAINST SPLASH OF PRODUCT.

GLOVES -----

PROTECTIVE GLOVES RECOMMENDED WHEN PROLONGED SKIN CONTACT CANNOT BE AVOIDED. THE FOLLOWING GLOVE MATERIALS ARE ACCEPTABLE: POLYETHYLENE; NEOPRENE; NITRILE; POLYVINYL ALCOHOL; NATURAL RUBBER; BUTYL RUBBER;

RESPIRATOR -----

CONCENTRATION-IN-AIR DETERMINES PROTECTION NEEDED. USE ONLY NIOSH CERTIFIED RESPIRATORY PROTECTION. RESPIRATORY PROTECTION USUALLY NOT NEEDED UNLESS PRODUCT IS HEATED OR MISTED. HALF-MASK AIR PURIFYING RESPIRATOR WITH DUST/MIST FILTERS OR HEPA FILTER CARTRIDGES IS ACCEPTABLE TO 10 TIMES THE EXPOSURE LIMIT. FULL-FACE AIR PURIFYING RESPIRATOR WITH DUST/MIST FILTERS OR HEPA FILTER CARTRIDGES IS ACCEPTABLE TO 50 TIMES THE EXPOSURE LIMIT. PROTECTION BY AIR PURIFYING RESPIRATORS IS LIMITED. USE A POSITIVE PRESSURE-DEMAND FULL-FACE SUPPLIED AIR RESPIRATOR OR SCBA FOR EXPOSURES ABOVE 50X THE EXPOSURE LIMIT. IF EXPOSURE IS ABOVE IDLH (IMMEDIATELY DANGEROUS TO LIFE & HEALTH), OR THERE IS THE POSSIBILITY OF AN UNCONTROLLED RELEASE OR EXPOSURE LEVELS ARE UNKNOWN THEN USE A POSITIVE PRESSURE-DEMAND FULL-FACE SUPPLIED AIR RESPIRATOR WITH ESCAPE BOTTLE OR SCBA.

OTHER -----

IF CONTACT IS UNAVOIDABLE, WEAR CHEMICAL RESISTANT CLOTHING. THE FOLLOWING MATERIALS ARE ACCEPTABLE AS PROTECTIVE CLOTHING MATERIALS: POLYETHYLENE; POLYVINYL ALCOHOL (PVA); NEOPRENE; NITRILE; NATURAL RUBBER; BUTYL RUBBER; SAFETY SHOWER AND EYE WASH AVAILABILITY RECOMMENDED. LAUNDRY SOILED CLOTHES. FOR NON-FIRE EMERGENCIES RESPIRATORY PROTECTION MAY BE NECESSARY AND WEAR APPROPRIATE PROTECTIVE CLOTHING TO AVOID CONTACT.

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9. PHYSICAL AND CHEMICAL PROPERTIES

BOILING POINT.....: 339-348 (DEG. F) _____ 171-175 (DEG. C)
MELTING POINT.....: N/A (DEG. F) _____ N/A (DEG. C)
SPECIFIC GRAVITY.....: 1.12 (WATER=1)
PACKING DENSITY.....: N/A (KG/M3)
VAPOR PRESSURE.....: <0.1 (MM HG @ 20 DEG C)
VAPOR DENSITY.....: 2.1 (AIR=1)
SOLUBILITY IN WATER.: COMPLETE (% BY VOLUME)
PH INFORMATION.....: N/A AT CONC. N/A G/L H2O
% VOLATILES BY VOL.: N.D.
EVAPORATION RATE.....: 1000X SLOWER (ETHYL ETHER=1)

OCTANOL/WATER COEFF.: N.D.
APPEARANCE.....: GREEN LIQUID
ODOR.....: MILD
ODOR THRESHOLD.....: N.D. (PPM)
VISCOSITY.....: N.D. SUS @ N.D DEG F ... N.D. CST @ N.D DEG C
MOLECULAR WEIGHT.....: N.D. (G/MOLE)

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10. STABILITY AND REACTIVITY

STABILITY -----

STABLE.

CONDITIONS TO AVOID-

EXTREME HEAT WILL IGNITE IN AIR AT 748F.

DO NOT STORE AT TEMPERATURES ABOVE 120F (60C).

INCOMPATIBLE MATERIALS -----

STRONG OXIDIZING CHEMICALS. REACTS VIOLENTLY WITH CHLOROSULFONIC
ACIDOLEUM, SULFURIC ACID, STRONG BASES.

HAZARDOUS DECOMPOSITION -----

CARBON MONOXIDE AND ASPHYXIANTS ARE PRODUCED BY BURNING.

POLYMERIZATION -----

WILL NOT OCCUR.

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11. TOXICOLOGICAL INFORMATION

FOR THE PRODUCT -----

ACUTE TOXICITY

ESTIMATED ORAL LD50 IN RATS IS: 6-13 G/KG.

INHALATION: OVEREXPOSURE TO MIST OR VAPORS MAY CAUSE EYE, NOSE, THROAT
AND RESPIRATORY TRACT IRRITATION, CNS (BRAIN) EFFECTS, DIZZINESS,
DRUNKENNESS, INCOORDINATION, COMA, RESPIRATORY FAILURE, OR DEATH.
EXCESSIVE EXPOSURES MAY CAUSE BRAIN, LIVER, AND/OR KIDNEY EFFECTS AND
DAMAGE. SKIN & EYE: LARGE ACUTE EXPOSURE MAY CAUSE SYSTEMIC EFFECTS.
IRRITANT ON CONTACT. INGESTION: TOXIC! HARMFUL OR FATAL IF SWALLOWED.
ACUTE POISONING CHARACTERIZED BY GI PAIN, NAUSEA, VOMITING, MUSCLE
TENDERNESS, CNS DEPRESSION, POSSIBLE RESPIRATORY AND RENAL FAILURE,
DEATH. CONTAINS ETHYLENE GLYCOL WHICH CAUSED EMBROTOXICITY AND
TERATOGENICITY BY ORAL & INHALATION IN ANIMAL STUDIES.

ETHYLENE GLYCOL (COMPONENT)

INHALATION: OVEREXPOSURE TO MIST OR VAPORS GENERATED BY HEATING MAY
CAUSE EYE, NOSE, THROAT, & RESPIRATORY IRRITATION, CNS (BRAIN) EFFECTS
& DIZZINESS. EXCESSIVE PROLONGED EXPOSURES MAY CAUSE KIDNEY, LIVER,
BLOOD, BRAIN EFFECTS OR DAMAGE. SKIN & EYE: LARGE ACUTE EXPOSURE MAY
CAUSE SYSTEMIC TOXICITY. IRRITANT ON CONTACT. ORAL: TOXIC! HARMFUL OR
FATAL IF SWALLOWED. ACUTE POISONING (AS LITTLE AS 100 ML IN HUMANS HAS
PRODUCED LETHALITY) CHARACTERIZED BY GI PAIN, NAUSEA, VOMITING,
MUSCLE SPASMS, CONVULSIONS AND CNS DEPRESSION, POSSIBLE RENAL AND
RESPIRATORY FAILURE, DEATH. IN LAB ANIMALS BY ORAL & INHALATION
EXPOSURE FETAL TOXICITY AND BIRTH DEFECTS WERE REPORTED.

DIETHYLENE GLYCOL (COMPONENT)

INHALATION: HIGH CONCENTRATION OF VAPOR UNLIKELY. IF HEATED, MAY CAUSE
EYE, NOSE, THROAT, & RESPIRATORY IRRITATION, CNS (BRAIN) EFFECTS,

DIZZINESS. SKIN: PROLONGED OR REPEATED CONTACT MAY CAUSE IRRITATION. EYE: MILD IRRITANT. INGESTION: HARMFUL OR FATAL IF SWALLOWED. ACUTE POISONING MAY CAUSE GI PAIN, NAUSEA, VOMITING, DIARRHEA, COMA, KIDNEY OR LIVER EFFECTS OR DAMAGE. IN ANIMALS, HIGH ORAL CONCENTRATIONS CAUSED MATERNAL TOXICITY AND ADVERSE REPRODUCTIVE EFFECTS. FETAL DEVELOPMENT ABNORMALITIES HAVE BEEN REPORTED IN RATS.

POTASSIUM PHOSPHATE DIBASIC (COMPONENT)
INHALATION: DUST MAY CAUSE IRRITATION TO THE EYES, NOSE, THROAT, AND RESPIRATORY TRACT. SKIN: PROLONGED OR REPEATED CONTACT MAY CAUSE MODERATE TO SEVERE IRRITATION. EYE: MODERATE IRRITANT ON CONTACT. INGESTION: IF LARGE AMOUNTS ARE SWALLOWED, POTASSIUM INTOXICATION MAY RESULT CHARACTERIZED BY NUMBNESS IN THE HANDS AND FEET, VOMITING, GI IRRITATION, CONVULSIONS, DISTURBANCES IN HEART RHYTHM, KIDNEY DAMAGE, AND DEATH.

12. ECOLOGICAL INFORMATION

AQUATIC TOXICITY -----

MATERIAL IS PRACTICALLY NON-TOXIC TO AQUATIC ORGANISMS ON AN ACUTE BASIS

13. DISPOSAL CONSIDERATIONS

FOLLOW FEDERAL, STATE AND LOCAL REGULATIONS. NOT A RCRA HAZARDOUS WASTE IF UNCONTAMINATED. DO NOT FLUSH TO DRAIN/ STORM SEWER. CONTRACT TO AUTHORIZED DISPOSAL SERVICE.

14. TRANSPORTATION INFORMATION

DOT-
PROPER SHIPPING NAME- ETHYLENE GLYCOL (ANTIFREEZE)
HAZARD CLASS- NOT REGULATED
IDENTIFICATION NUMBER- NOT REGULATED
LABEL REQUIRED- NOT REGULATED

IMDG- PROPER SHIPPING NAME- NOT AVAILABLE

IATA- PROPER SHIPPING NAME- NOT AVAILABLE

15. REGULATORY INFORMATION

SARA 302 THRESHOLD PLANNING QUANTITY. 10000 POUNDS

SARA 304 REPORTABLE QUANTITY 1 POUNDS

SARA 311 CATEGORIES- IMMEDIATE (ACUTE) HEALTH EFFECTS.. Y
 DELAYED (CHRONIC) HEALTH EFFECTS.. Y
 FIRE HAZARD N
 SUDDEN RELEASE OF PRESSURE HAZARD. N
 REACTIVITY HAZARD N

WHEN A PRODUCT AND/OR COMPONENT IS LISTED BELOW, THE REGULATORY LIST ON WHICH IT APPEARS IS INDICATED.

ETHYLENE GLYCOL - CA FL MA MN NJ PA RI 01
DIETHYLENE GLYCOL - PA RI

01=SARA 313	02=SARA 302/304	03=IARC CARCINOGEN
04=OSHA CARCINOGEN	05=ACGIH CARCINOGEN	06=NTP CARCINOGEN
07=CERCLA 302.4	08=WHMIS CONTROLLED PROD.	
10=OTHER CARCINOGEN		
PA=PENNSYLVANIA RTK	NJ=NEW JERSEY RTK	CA=CALIFORNIA PROP 65
MA=MASSACHUSETTS RTK	MI=MICHIGAN 406	MN=MINNESOTA RTK
FL=FLORIDA	RI=RHODE ISLAND	IL=ILLINOIS
NY=NEW YORK	WV=WEST VIRGINIA	CT=CONNECTICUT
LA=LOUISIANA	ME=MAINE	OH=OHIO

THIS PRODUCT OR ALL COMPONENTS OF THIS PRODUCT ARE LISTED ON THE U.S. TSCA INVENTORY.

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16. OTHER INFORMATION

ETHYLENE GLYCOL IS TOXIC BY INGESTION AND DETAILS ON BODILY EFFECTS AND FIRST AID TREATMENT CAN BE FOUND IN "CLINICAL TOXICOLOGY OF COMMERCIAL PRODUCTS" BY GOSSELIN, HODGE, SMITH AND GLEASON. WILLIAMS & WILKINS PUB. WARNING! HARMFUL OR FATAL IF SWALLOWED. DO NOT DRINK ETHYLENE GLYCOL OR SOLUTION. IF SWALLOWED AND IF CONSCIOUS, INDUCE VOMITING. CALL FOR MEDICAL HELP IMMEDIATELY. KEEP OUT OF REACH OF CHILDREN. SHELF LIFE LIMITATIONS: 6 MONTHS IN DRUMS OR 12 MONTHS IN BULK.